

REMARKS/ARGUMENTS

Entry of this amendment and reconsideration of the present application, as amended, are respectfully requested.

Claims 26, 27, 29-75, 77-86 and new claim 88 are presently active in this application, claims 1-25, 28, 76 and 87 having been cancelled. Claims 26, 27, 29-43, 45, 46, 48, 50-60, 62-71, 73-75, 77-82 and 84-87 were rejected and claims 44, 47, 49, 61, 72 and 83 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 26, 37, 47, 48, 50, 52, 62, 65, 67, 74, 78, 85 and 86 are amended herein. However, in spite of these amendments, applicant reserves the right to traverse the Examiner's rejections of the claims as previously set forth and the Examiner's positions set forth in the Office Action, e.g., by filing a continuation application with such claims. Also, unless mentioned below to distinguish the claimed invention over the cited prior art, the changes to the claims do not relate to patentability.

Rejections under 35 U.S.C. §103

Matsuura in view of Breed

Claims 37-43, 45, 46, 48 and 50-59 were rejected under 35 U.S.C. §103(a) as being unpatentable over Matsuura (U.S. Pat. No. 3,770,315) in view of Breed (Great Britain Patent No. 2289786). The Examiner takes a position that the combination of Matsuura and Breed shows a movable "pre-inflated" cushioning arrangement which is movable (when a load is applied thereon).

The Examiner's rejection is respectfully traversed in view of amended independent claims 37 and 52.

Claim 37 is amended to clarify that the cushioning arrangement is a continuously inflated cushioning arrangement and is movable prior to and independent of contact with the occupant toward a likely position of the occupant. In this manner, the cushioning arrangement is movable prior to the crash into contact with the occupant upon a determination by the anticipatory crash sensor that a crash involving the vehicle is about to occur. The cushioning arrangement is "continuously" inflated in that it is not deflated and then inflated but rather remains inflated with fluid. This is in contrast to a traditional impact protection airbag which is inflated and then deflated.

As now set forth in claim 37, the cushioning arrangement is moved independent of the application of a load thereon, i.e., movement of the cushioning arrangement is not a result of the application of a load thereto by the occupant. Rather, in the invention, there is a displacement device which moves the cushioning arrangement from a position in which it is not in contact with the occupant

to a contact-position in which it will be in during the crash (as can be seen from a comparison of Figs. 9A and 9B for example). This avoids whiplash injuries as discussed in the specification.

Claim 52 is amended to recite the step of positioning a continuously inflated cushioning arrangement in a first position relative to the occupant in which the cushioning arrangement is not in contact with the occupant, and to clarify that upon a determination that a crash involving the vehicle is about to occur, the cushioning arrangement is moved from the first position into “a second position in which the cushioning arrangement is in contact with the occupant such that the cushioning arrangement is in the second position in contact with the occupant during the crash”. There are thus two different positions of the cushioning arrangement, a non-contact position in which it is situated before a crash and a contact position in which it is situated at least at some time in the crash.

Matsuura and Breed do not disclose, teach or suggest an inflated airbag which is movable prior to and independent of contact with an occupant (as set forth in claim 37) or a cushioning arrangement which is moved from a non-contact position into a contact position based on a determination by an anticipatory crash sensor that a crash involving the vehicle is about to occur (as set forth in claim 52).

Breed describes inflating a cushioning arrangement (an airbag) to thereby cause the airbag to move toward the occupant. There is no continuously inflated cushioning arrangement, i.e., a cushioning arrangement which is inflated before the detection of any type of crash.

Matsuura shows a stationary pre-inflated headrest which is movable only when the occupant's head comes into contact with it, i.e., when a load is applied thereon by the occupant's head. In contrast to the invention, the headrest of Matsuura is not movable prior to and independent of contact with the occupant.

Since Matsuura and Breed do not disclose a continuously inflated cushioning arrangement which is movable prior to and independent of contact with the occupant toward a likely position of the occupant upon a determination by an anticipatory crash sensor that a crash involving the vehicle is about to occur such that the cushioning arrangement is movable prior to the crash into contact with the occupant, they cannot be combined to render the embodiments of the invention set forth in claims 37-43, 45, 46, 48, 50 and 51 unpatentable.

Since Matsuura and Breed do not disclose positioning a continuously inflated cushioning arrangement in a first position not in contact with the occupant and upon a determination that a crash involving the vehicle is about to occur, moving the cushioning arrangement from the first position into a second position in which the cushioning arrangement is in contact with the occupant such that the cushioning arrangement is in the second position in contact with the occupant during the crash, they

cannot be combined to the render the embodiments of the invention set forth in claims 52-59 unpatentable.

In view of the arguments presented above, it is respectfully submitted that the Examiner's rejection of claims 37-43, 45, 46, 48 and 50-59 under 35 U.S.C. §103(a) as being unpatentable over Matsuura in view of Breed has been overcome and should be removed.

Nakanishi in view of Smittle et al.

Claims 26, 27, 29-36, 60, 62-71, 73-75, 77-82 and 84-87 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nakanishi (U.S. Pat. No. 4,744,601) in view of Smittle et al. (U.S. Pat. No. 3,770,315).

The Examiner's rejection is respectfully traversed on the grounds that Nakanishi and Smittle et al. do not disclose all of the features of independent claims 26, 62, 74, 85 and 86 and/or lack a teaching or suggestion of a desirability of a motivation to combine the references to arrive at the embodiments of the invention set forth in these claims.

With respect to claims 26-36 and 60, claim 26 has been amended to specify that the constraining means are arranged within the bag for automatically constraining flow of fluid from a first portion of the bag to a second portion of the bag "upon contact by the occupant with a portion of said cushioning arrangement opposite said first portion of said bag prior to or during the impact". In the disclosed embodiment, the constraining means is open cell foam having channels 842 arranged to provide a flow path between the upper and lower portions of the bag 815. As such, when the occupant comes into contact with the cushioning arrangement, fluid within the bag flows substantially within the bag to change the shape of the bag so as to approximately conform to the head and neck of the occupant.

Nakanishi and Smittle et al. do not disclose, teach or suggest constraining means as this feature should be interpreted in accordance with 35 U.S.C. §112, sixth paragraph.

Specifically, Nakanishi and Smittle et al. do not disclose structure within a bag which constrains fluid flow upon contact by an occupant prior to or during an impact. Nakanishi shows a gel material layer 24 which is fluid and changes its shape upon impact by an occupant. There is no constraint on the flow of the gel within the gel material layer upon impact by the occupant. Smittle et al. shows a valve 22 manually actuated by a control knob 23 and does not mention the ability to automatically constrain flow of fluid during an impact. The cushion of Smittle et al. is designed for lumbar support during an airplane trip and therefore does not even remotely suggest the possibility of constraining fluid flow during an impact involving the vehicle.

With respect to claims 62-71, 73-75, 77-82 and 84, the Examiner's rejection is respectfully traversed on the grounds that one skilled in the art would not be motivated to combine any purported teachings of Smittle et al. in combination with Nakanishi.

Nakanishi relates to a headrest including a gel material layer which deforms in a non-elastic manner when receiving a shock from the occupant (see col. 1, lines 35-39). Smittle et al. relates to a lumbar support arranged in a seat and which is associated with a valve 22 which adjusts the pressure in the lumbar support in accordance with the occupant's seating preference. The lumbar support is designed to overcome the problem of the lack of support in the gap between the occupant's back and the back portion of the seat in the occupant's lumbar region (see col. 1, lines 20-26). There is no benefit provided by the lumbar support in a crash to protect the occupant's head and neck from whiplash injuries.

Smittle et al. thus does not suggest any desirability for applying the support structure thereof for a headrest and in fact, since it is designed to provide *lumbar* (of or located in the part of the back and sides between the lowest ribs and the hips) support, one skilled in the art would not even consider its use for a headrest. The absence of a suggestion of the desirability of applying the teachings of the Smittle et al. reference for use in combination with a head rest in order to prevent head and neck injuries would not lead one skilled in the art to applying any teachings of Smittle et al. in combination with the headrest of Nakanishi.

Accordingly, it would not have been obvious to modify the cushioning arrangement of Nakanishi to include any of the features of the lumbar support of Smittle et al.

With respect to claim 85, this claim includes the feature of a deformable cover surrounding a bag, which is elastically deformable in response to changes in pressure in the bag and which includes stretch seams to allow elastic deformation thereof. The Examiner stated that in Smittle et al., a deformable cover inherently surrounds the frame and bag. However, Smittle et al. does not disclose, teach or suggest an *elastically* deformable cover which includes stretch seams to allow for such elastic deformation.

With respect to claims 86 and 87, claim 86 has been amended to include the subject matter of claim 87 (which was thus canceled) and now specifies that the open cell foam includes channels which facilitate the flow of fluid within the bag.

Nakanishi and Smittle et al. does not disclose any such channels or any other comparable conduits which allow fluid flow between different portions of a fluid-containing bag.

In view of the arguments presented above, it is respectfully submitted that the Examiner's rejections of claims 26, 27, 29-36, 60, 62-71, 73-75, 77-82 and 84-87 under 35 U.S.C. §103(a) as being

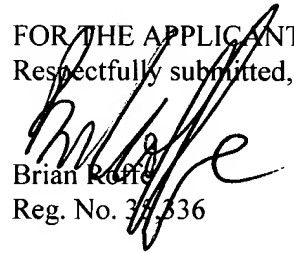
unpatentable over Nakanishi in view of Smittle et al. has been overcome and should be removed.

One further dependent claim (claim 88) in excess of twenty is presented. However, since one claim is cancelled (claim 87), no fee is required for the presentation of this claim.

If the Examiner should determine that minor changes to the claims to obviate informalities are necessary to place the application in condition for allowance, the Examiner is respectfully requested to contact the undersigned to discuss the same.

An early and favorable action on the merits is earnestly solicited.

FOR THE APPLICANT
Respectfully submitted,


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